

Figure 1. To form a damascene structure build in IMD and metal Barrier is deposited. An array of VIAs are built for MIMCap

FIGURE 1

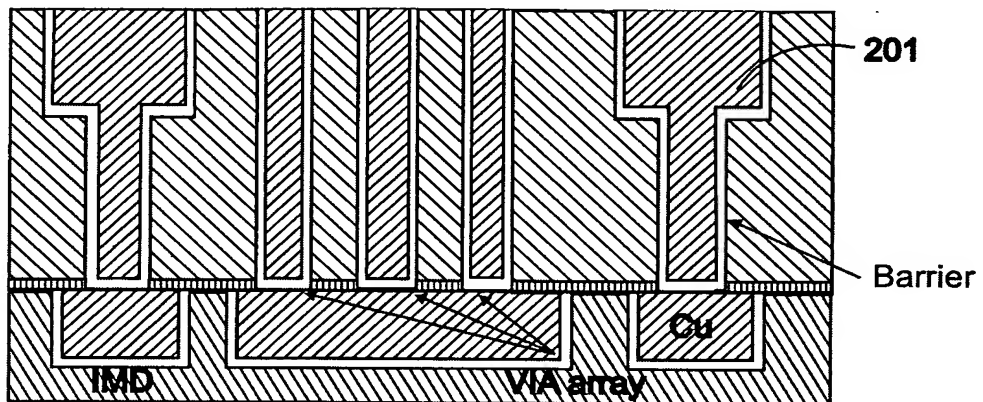


Figure 2. Cu seed, Plating and CMP are done the same way as Conventional dual-damascene Cu interconnect processes

FIGURE 2

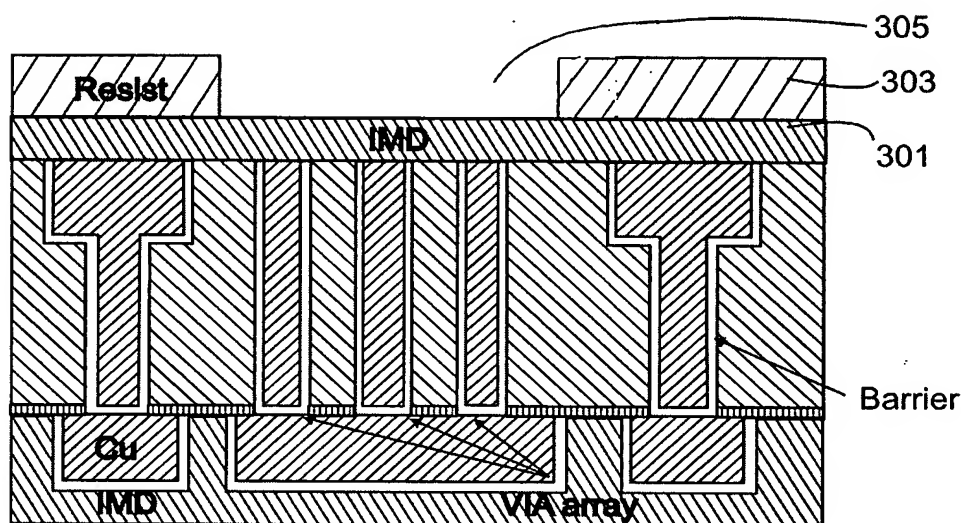


Figure 3. A layer of dielectric is deposited followed by a lithography Patterning to open the area where MIMCap need to be built.

FIGURE 3

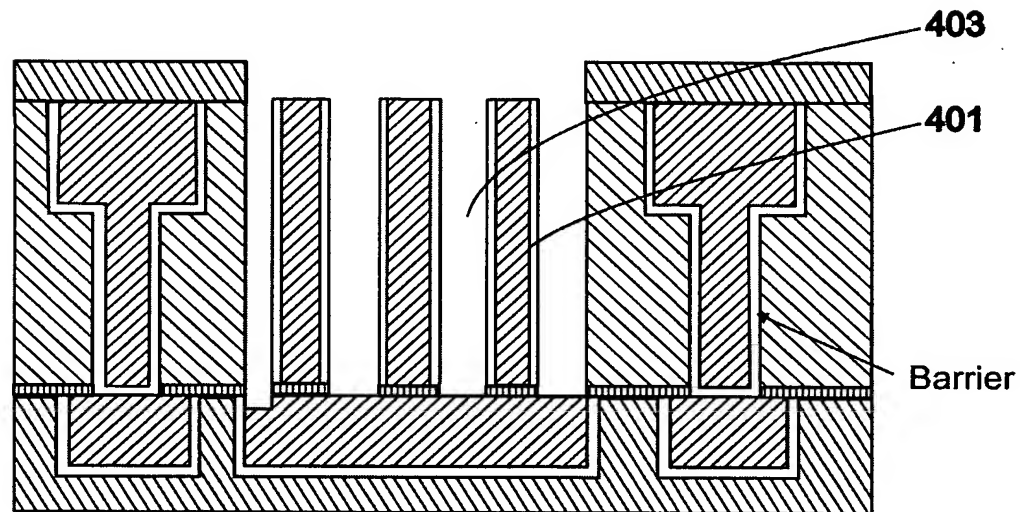


Figure 4. To selectively etch dielectric and strip the residual resist
This process leaves Cu VIAs stand alone

FIGURE 4

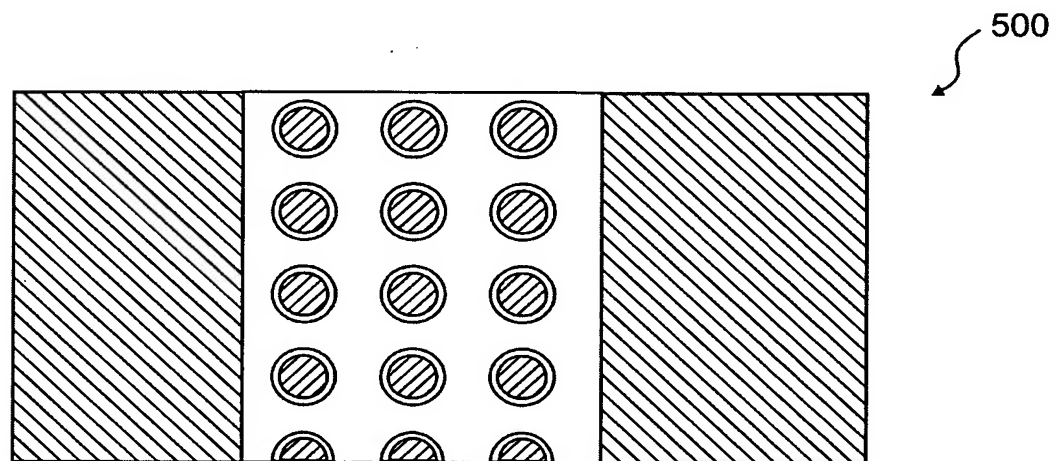


Figure 5. Top-view of Fig. 4.

FIGURE 5

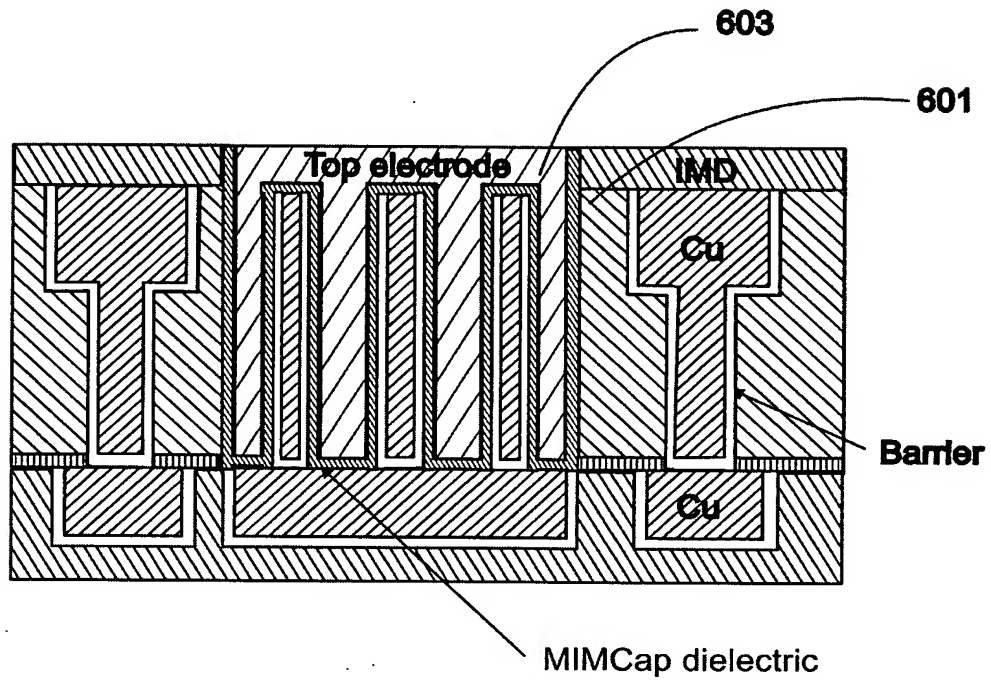


Figure 6. To conformally deposit a MIMCap dielectric, a top metal electrode and CMP to have top electrode co-planar with IMD.

FIGURE 6